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in the following listed application(s) or patent(s) for which the issue fee has been paid.

<u>Patent No.</u>	<u>Serial No.</u>	<u>Patent Date</u>	<u>US Filing Date</u>	<u>Confirmation No.</u>	<u>Attorney Docket No.</u>
7,362,398 B2	10/800,483	04/22/2008	03/15/2004	9302	0553-0133.02

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US007362398B2

(12) **United States Patent**
Satake et al.

(10) **Patent No.:** **US 7,362,398 B2**
(45) **Date of Patent:** ***Apr. 22, 2008**

(54) **CAMERA AND PERSONAL COMPUTER HAVING A REFLECTION TYPE LIQUID CRYSTAL DEVICE WITH PARTICULAR DIELECTRIC MULTI-LAYER FILM AND INTERLAYER INSULATING FILMS**

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(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** 10/800,483

(22) **Filed:** Mar. 15, 2004

(65) **Prior Publication Data**

US 2004/0174490 A1 Sep. 9, 2004

Related U.S. Application Data

(63) Continuation of application No. 10/200,558, filed on Jul. 22, 2002, now Pat. No. 6,707,521, which is a continuation of application No. 09/332,792, filed on Jun. 14, 1999, now Pat. No. 6,426,787.

(30) **Foreign Application Priority Data**

Jun. 16, 1998 (JP) 10-167980

(51) **Int. Cl.**

G02F 1/1333 (2006.01)

G02F 1/1335 (2006.01)

(52) **U.S. Cl.** 349/138; 349/112; 349/113

(58) **Field of Classification Search** 349/138,
349/113, 114, 112, 147
See application file for complete search history.

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(57) **ABSTRACT**

To provide a novel and extremely effective structure of a liquid crystal display device in which the lowering of reflectivity due to the formation of orientation films can be prevented, a method of manufacturing the display device of the present invention comprises forming a concave or convex portion on a reflection electrode, forming a dielectric multi-layer film thereon, to thereby obtain the liquid crystal display device excellent in reflection characteristics and diffused reflection characteristics.

30 Claims, 11 Drawing Sheets

